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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,723	01/29/2001	Peter G. Webb	10010016-1	1312

7590 06/17/2003

AGILENT TECHNOLOGIES
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EXAMINER	
SMITH, CAROLYN L	
ART UNIT	PAPER NUMBER
1631	11

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/772,723	WEBB, PETER G.	
	Examiner	Art Unit	
	Carolyn L Smith	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 March 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) *15-44* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-44* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Applicants' amendments and remarks in Paper No. 10, filed 3/31/03, are acknowledged.

Applicants' arguments, filed 3/31/03, have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from the previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claims 1-14 are herein under examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The rejection under 35 U.S.C. 103(a) is maintained as stated in the previous Office action. Applicants stated the rejection did not adequately express all claimed features in the prior art. Further art is provided below to clarify the obviousness of this invention.

Applicants state that the Examiner must identify the art relied upon to conclude the "well known" array fabrication (such as Affymetrix microarrays) and "well known" barcoding identification (such as Federal Express usage of barcode identification). The Examiner has addressed array fabrication and barcoding identification in the prior art listed below as well in the previous Office action and will therefore not provide the requested affidavit of personal knowledge. It is also noted that the quotation provided by Applicants regarding the Federal

Circuit statement in *In re Lee*, 61 USPQ2d 1430 (CAFC, 2002) @ 1435, makes no reference to the creating an affidavit.

Claims 1, 2, and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunkapiller et al (P/N 5,942,609), in view of Zeleny et al. (P/N 6,215,894), Brown et al. (P/N 5,807,522), and Bass (P/N 6,420,180).

Hunkapiller et al. describe creating arrays with addressable locations where multiple biopolymer samples can be fixed or mounted in fixed locations (col. 18, lines 11-21). Hunkapiller et al. describe liquid reagents being delivered from vessels to solid supports (col. 5, lines 10-12) which include addressable arrays (col. 9, lines 18-21). Hunkapiller et al. describe assembly of a polynucleotide, including DNA, on a solid support (abstract and col. 6, lines 56-59). Hunkapiller et al. do not describe saving in a memory a map of the identity of the vessels corresponding to substrate regions where the biopolymers are desposited, applying the map identifier to the substrate or housing carrying the substrate, or shipping the fabricated array with applied map identifier to a remote location.

Zeleny et al. describe an identifier corresponding to each experiment imprinted on the biochip (col. 2, lines 13-14). Zeleny et al. describe the identifier is machine-readable which is imprinted on the chip prior to deposition of the array experiment (col. 2, lines 18-20). Zeleny et al. describe a file is opened on a computer system where the operator may enter various parameters of the experimental array including a map of the reagents deposited in the array (col. 2, lines 20-25).

Brown et al. (1998) describe mass fabrication of microarrays (col. 2, lines 20-25) and shipment of DNA reagents via microarrays to researchers (col. 14, lines 36-42).

Bass describe forwarding or shipping an item from one location to the next (col. 6, lines 35-40). Bass describe the operation of a fabrication station (col. 10, lines 66-67). Bass describe the array layout pattern communicated to another processor, including a remote processor via a communication channel or portable storage medium (col. 11, lines 7-11). Bass describe one or more array units may be forwarded to remote users (col. 11, lines 25-27). Bass describe this process may be repeated at a fabrication station, or central fabrication station, for multiple substrates (col. 11, lines 28-32).

Zeleny et al. state that analysis of raw data from a biochip array collected by a scanner was previously performed manually which involved significant operator time as well as errors in the scanning and analysis procedure (col. 2, lines 4-10). One of ordinary skill in the art would have been motivated to automate microarray biochip experiments, as stated by Zeleny et al. (col. 1, lines 5-9). Therefore, it would have been obvious to add automated techniques, beginning with automated delivery of liquid reagents from vessels to the array (as stated by Hunkapiller et al. (col. 5, lines 7-11), using barcode identifiers and mapping reagent location as stated by Zeleny et al. in order to avoid unnecessary errors and speed efficiency, as stated by Zeleny (col. 2, lines 4-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to ship microarrays (as stated by Brown et al. and Bass) and communicating shipment (as stated by Bass) to avoid wasted use of operator time and errors as previously stated by Zeleny et al.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunkapiller et al (P/N 5,942,609), in view of Zeleny et al. (P/N 6,215,894), Brown et al. (P/N 5,807,522), Bass (P/N 6,420,180), Shakib et al. (P/N 5,812,793), and Balaban et al.

Hunkapiller et al. describe creating arrays with addressable locations where multiple biopolymer samples can be fixed or mounted in fixed locations (col. 18, lines 11-21). Hunkapiller et al. describe liquid reagents being delivered from vessels to solid supports (col. 5, lines 10-12) which include addressable arrays (col. 9, lines 18-21). Hunkapiller et al. describe assembly of a polynucleotide, including DNA, on a solid support (abstract and col. 6, lines 56-59). Hunkapiller et al. do not describe saving in a memory a map of the identity of the vessels corresponding to substrate regions where the biopolymers are desposited, applying the map identifier to the substrate or housing carrying the substrate, or shipping the fabricated array with applied map identifier to a remote location. Hunkapiller et al. do not teach the method of generating the array at a central fabrication station and making associated map identifiers that are communicated to physically remote stations and from the central fabrication station. Hunkapiller et al. also do not teach the communication of the information via network (i.e., LAN (Local Area Network), WAN (Wide Area Network), e-mail, etc.) or computer readable storage media.

Zeleny et al. describe an identifier corresponding to each experiment imprinted on the biochip (col. 2, lines 13-14). Zeleny et al. describe the identifier is machine-readable which is imprinted on the chip prior to deposition of the array experiment (col. 2, lines 18-20). Zeleny et al. describe a file is opened on a computer system where the operator may enter various parameters of the experimental array including a map of the reagents deposited in the array (col.

2, lines 20-25). Zeleny et al. describe a computer-stored record corresponding to each identifier (abstract) which is reasonably interpreted as a database.

Brown et al. describe mass fabrication of microarrays (col. 2, lines 20-25) and shipment of DNA reagents via microarrays to researchers (col. 14, lines 36-42).

Balaban et al. teach that portable storage media may be used to carry information between computers (col. 6, lines 16-18).

Bass describe forwarding or shipping an item from one location to the next (col. 6, lines 35-40). Bass describe the operation of a fabrication station (col. 10, lines 66-67). Bass describe the array layout pattern communicated to another processor, including a remote processor via a communication channel or portable storage medium (col. 11, lines 7-11). Bass describe one or more array units may be forwarded to remote users (col. 11, lines 25-27). Bass describe this process may be repeated at a fabrication station, or central fabrication station, for multiple substrates (col. 11, lines 28-32).

Shakib et al. teach an asynchronous store and forward data replication system and the method utilizing existing computer networks and/or network control software as a transport agent to deliver the communication messages (abstract). Shakib et al. teach a system and method which can generate information from a remote station (i.e., creation of new data, modification of existing data, or deletion of existing data) (col. 3, lines 20-28), and communicate to another remote station over foreign networks such as the Internet or other Wide Area Network (WAN) (col. 5, lines 28-32). Shakib et al. teach the assignment of all data sets and individual objects which make up the data sets with unique IDs, allowing them to be tracked throughout the

network (col. 4, lines 39-46). Furthermore, Shakib et al. teach the access of privileged information via use of IDs of the data set (col. 4, lines 50-57).

Zeleny et al. state that analysis of raw data from a biochip array collected by a scanner was previously performed manually which involved significant operator time as well as errors in the scanning and analysis procedure (col. 2, lines 4-10). Bass state serious errors can occur during array formation (col. 2, lines 51-53). One of ordinary skill in the art would have been motivated to automate microarray biochip experiments, as stated by Zeleny et al. (col. 1, lines 5-9). Therefore, it would have been obvious to add automated techniques, beginning with automated delivery of liquid reagents from vessels to the array (as stated by Hunkapiller et al. (col. 5, lines 7-11), using barcode identifiers and mapping reagent location as stated by Zeleny et al. in order to avoid unnecessary errors and speed efficiency, as stated by Zeleny (col. 2, lines 4-10). Shakib et al. teach the ability of data or data sets (i.e., information) transfer from a remote station, such to another remote station and the ability to generate unique identifiers to track down and access the data or data sets. The ability to communicate, access, or exchange data through network, such as e-mail, WAN, LAN, the Internet, etc., would be advantageous since it would allow communication of any information (even an array design) between physically separate individuals, companies, or entities, quickly. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Shakib et al. as well as the distribution of microarrays (as stated by Brown et al.), array shipment and evaluated by user (stated by Bass, col. 11, second paragraph) and portable storage media use (as stated by Balaban et al.) to the above teachings to expedite the data transfer/access, or more specifically,

array designs and any pertaining information thereof, to the array generation scheme, and thus avoiding wasted use of operator time and errors as previously stated by Zeleny et al.

Thus, claims 1-14 are obvious over the cited references.

Conclusion

No claim is allowed.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR §1.6(d)). The CM1 Fax Center number is either (703) 308-4242 or (703) 305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carolyn Smith, whose telephone number is (703) 308-6043. The examiner can normally be reached Monday through Friday from 8 A.M. to 4:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, can be reached on (703) 308-4028.

Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instruments Examiner Tina Plunkett whose telephone number is (703) 305-3524 or to the Technical Center receptionist whose telephone number is (703) 308-0196.

June 13, 2003

ARDIN H. MARSCHEL
PRIMARY EXAMINER